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The New European Wind Atlas

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1. European wind resource assessment

1.1 The new EU Atlas
The Commission has initiated the creation and publication of a new EU wind atlas. The atlas will cover Member States (MS) as well as MS' exclusive economic zones, both onshore and offshore. It has involved the launch of a single joint call for proposals by promoters of national and/or regional programmes. Nine MS have committed themselves to perform the work. Basically it is the MS research programmes that will execute the project but an important part of the project is to create "open project development platforms" with associated protocols allowing a wider range of scientists worldwide to contribute. The project has a duration of 5 years.
The decision on the new wind atlas was taken after several years of work by the European Wind Energy Technology Platform and the European Energy Research Alliances' Joint programme for Wind Energy.

2. Structure of the project
The project will be structured around three areas of work, to be implemented in parallel:

2.1 Creation and publication of a European wind atlas in electronic form, which will include the underlying data and a new EU wind climate database.
The database will at a minimum include: Wind resources and their associated uncertainty; Extreme wind; Turbulence characteristics; Adverse weather conditions; Predictability for short term prediction; Guidelines.

2.2 Development of dynamical downscaling methodologies and open-source models.
The developed downscaling methodologies and models will be fully documented and made public available and will be used to produce overview maps of wind resources and relevant data at several heights and a horizontal resolution down to 100 m. Uncertainty estimates for the models and the model chain will also be published and predictability analysis will be performed for short term forecasting predictability.

2.3 Measurement campaigns to build and validate the EU wind atlas.
At least five coordinated measurement campaigns will be undertaken and will cover at least complex terrains (mountains and forest), offshore, large changes in surface characteristics and cold climates. The campaigns will deliver high quality reference data on essential siting and load parameters.

3. Expected impact
Reduce technical risk and uncertainty in complex terrain and offshore conditions.
Create a standard for site assessment.
Develop a basis for improved spatial planning tools.

4. References

[1] A new EU Wind Energy Atlas: Proposal for an ERANET+ project.
Produced by the TPWind Secretariat
October 2011